AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, December, 16, 1848.

LOCOMOTIVES FOR SALE.

FOR SALE—Three Locomotive Engines and Tenders, in good running order. Apply to
JOHN WILKINSON,
President of the Syracuse & Utica R. R.
Syracuse, New York.

December 16, 1848. 4t50

MISSING NUMBERS OF THE JOURNAL.

As the *current* volume of the Railroad Journal is *nearly* completed, and as it *may not long* be in *my power* to furnish *missing* numbers to its subscribers —*some* of whom have kindly accompanied me thro' a long journey of *eighteen years*—through good report and through evil report—I am *desirous* to furnish *all* who wish to *complete* their volumes, with missing numbers, if they are now on hand. *Every* subscriber, desirous to obtain missing numbers, should make out a list, and forward it *immediately* after the close of the volume, which will be with the *next* number, or December 23d. The Titlepage and Index will be forwarded on the 30th December instant.

D. K. MINOR,
Editor Railroad Journal.

Hudson River Railroad.

A tour of inspection was, we understand, recently made over the route of the Hudson river road, by a few of the friends of the enterprise, who, it is said by one of the party, had reason to unite in the expression of their approbation at the progress of the great work undertaken by this company. It is calculated that when the road is completed the through trip to Albany may be performed in 3½ to 4 hours. It is now, we understand, the intention of the company, to open a single track to Poughkeepsie on or before 1st of September next, and to Albany on or before 1st of July, 1850. The total cost of this road to Poughkeepsie will be nearly $4,000,000.

The completion of this road to Albany will mark a new era in our railroad history. It will fully test the question of high speed and low fares, as upon *these two* questions will depend the success of the enterprise.

Baltimore and Ohio Annual Report.

We commence, in this number, the report of the chief engineer of this company, which will be found useful to the managers of other roads, as it gives in detail, by an able and experienced hand, the operations of the past year. Mr. Latrobe has, we believe, been employed upon the work from its commencement, and has—we hardly dare say it, yet, as it is the result of hard work, rather than of age, we will venture to speak the truth, and say that he has—grown a *little* gray in its service, and may therefore with great propriety be looked to for useful information in relation to the details of management, and wear and tear of the roadway and machinery.

His experience in the *wear and tear* of different kinds of rails, differently laid, will of course attract attention.

The great outlay for bridges, being $59,509 for rebuilding and repairing, and $8,105 for *watching* them, will, we should think, induce the company to examine the new *iron* bridge now offered by the Rider bridge company, in New York; as they can be furnished, as we are informed, at comparatively cheap rates.

The entire cost of maintaining the road bed, tracks, bridges, water stations, depots, watching bridges and pumping water for the year, was $258,384 19, or about $1,400 per mile for the main stem.

The improvement of the old road way, east of the Monocacy, by which the short curves will be materially improved, is rapidly progressing; and the extension of the road down to the south side of the bay at Baltimore, by which the cars will be taken down by steam, will materially reduce the expense of working.

It appears, by the report, that the expense of *horse* power, last year at Baltimore, was $35,195, besides the delays which necessarily occurred in hauling to the wharves and unlading the cars.

The facts given in relation to the performance, and cost of repairs, of engines and cars, will be found both interesting and useful.

We shall give the remaining portion, with several of the tabular statements, in our next.

Kennebeck and Portland Railroad, Annual Report.

We are indebted to the chief engineer, G. S. Greene, Esq., for a copy of the annual report of this company, made in October last, which shows that this company is determined not to be behind their neighbors, in the progress of their work. The charter covers the line from Portland to Augusta, via Brunswick, with a branch to Bath, 61 miles; but we hope the directors may yet decide, if they have not already, to connect at North Yarmouth, with the Atlantic and St. Lawrence road—extending this line an equal distance further into the county—avoid, if possible, *rival* lines, when the existing line will be just to the people in their management.

One main line can bring in all the traffic *north* and *east* of the Androscoggin, even if all the roads now chartered were completed—then avoid *doubling* if it can be done fairly.

We hope the company may be able to open the line to Bath, as they in their report intimate, before the 1st of January; and then we trust that the three distinct lines, viz: the Atlantic and St. Lawrence, the Androscoggin and Kennebeck, and the Kennebeck and Portland, will be able to extend their respective lines annually from twenty to thirty miles, until they reach the points aimed at; and until the people of Maine shall be as well accommodated with railroads as are the people of Massachusetts.

We shall give the engineer's report entire, and extracts from that of the board of directors, in a subsequent number.

Progress of Railroads.

This has been called the "age of locomotion," and when we contemplate the vast results that in the last 18 years have attended the construction of railroads, it may readily be admitted that it is so. The construction of railroads may even yet be considered in its infancy, notwithstanding the almost incredible amount of money that has been expended upon them in England, western Europe and the United States, since the opening of the Liverpool and Manchester railway in 1830. Throughout Germany there were opened in 1847, 67·71 German miles of road, completing 729 German, or 3,353 English

miles, and the gross receipts on these roads amounted to 19,502,843 thalers, or $13,534,497. In France the railways are greatly extended, although in the present year they have suffered disastrously from the revolution. For seven months, ending with July, the receipts this year were 6,726,293f. against 8,005,071f. last year, and 10,218,137f. or $1,915,900 in the same period of 1846. In England the railway mania has absorbed all the floating means of the country, and up to April last the capital invested in them reached the following figures:

	Authorised per returns £	Estimate for Co's., no returns.	Total. £	Total. $
St'k.	222,953,944	29,832,620	252,786,564	1,212,775,499
L'ns.	71,348,096	10,152,935	81,501,031	391,204,948
Tot.	294,302,040	39,985,555	334,287,595	1,603,980,447

That any considerable portion of so vast a sum of money could be raised for the increase of fixed capital, awakens astonishment: and yet it is so.—The impossibility of paying the national debt of £772,000,000 has been for years assumed as a fact, and yet a sum nearly equal to half that amount, in the circulating capital of England, can be turned into fixed capital with comparative ease. The revolutions in Europe, by paralysing the industry of England engaged in the production of exportable goods, and the successive failures of harvests on which the healthines of the home trade depends, operated a most injurious influence upon the railroad interests, and the losses to stockholders through a fall in prices are estimated at £100,000,000. That is to say, the leading merchants, manufacturers and capitalists, having invested their surplus contingent funds in railway shares, and through the effects of the European revolutions and short harvest being compelled to resort to these funds to meet engagements, had, in October last, the option to sacrifice goods or railway stock, many chose the former alternative; but those who sold the latter, did so at a loss of 50 per cent. Although this apparent loss has taken place with the stockholders, it may well be questioned whether the development of resources and economy of transportation attendant upon operation of the railroads has not in fact sustained the nation at large in a better condition than would otherwise have been the case, under the extraordinary cirumstances of the past year.

In the United States, where increase of population and rapidity of settlement on large tracts of land are marked features, the construction of railroads is not only an important but a necessary element in the national progress. In the United States there are in operation 5,703 miles of road, at an estimated aggregate cost of $285,150,000; of these roads, 1,261·54 miles are in the New England States, and 880·74 miles in Massachusetts constructed at a cost of over $41,000,000. In the last three sessions of the State legislature there have been chartered in Massachusetts as follows:

	Aggregate capital.
1846—18 roads and branches	$5,795,000
1847—16 " "	4,822,000
1848—19 " " increase of old stock, $3,941,000	11,045,000
Total	21,662,000

In the year 1847 $6,762,000 was paid upon the roads, and in the present year probably an equal amount. Nearly all these roads connect with Boston directly or indirectly, and all of them afford material for its growth in the resources they place at its command, reciprocally benefitting the sections connected with it. Although the large sums expended in these works have diverted capital from those reservoirs where they have usually accumulated for the benefit of commerce, and have thus tended to advance temporarily the rate of interest and somewhat cramp industrial occupations for the moment, the vast benefits they have conferred upon the city are manifest in a remarkable degree. These are indicated in the annual taxable valuation and the taxable polls as follows:

TAXABLE VALUATION OF BOSTON.

	Real estate.	Personal estate.	Total.	Polls.
1841	61,963,000	36,043,600	98,006,600	18,915
1842	65,499,900	41,233,800	105,723,300	19,636
1843	67,673,400	42,372,600	110,056,000	20,063
1844	72,048,000	46,402,300	118,450,300	22,339
1845	81,991,400	53,957,300	135,948,700	24 287
1846	90,119,600	58,720,000	148,839,600	25,974
1847	97,764,500	64,595,900	162,360,400	27,008

In these seven years the property taxable, increased $64,000,000, in the preceding seven years $20,000,000, and in the seven years ending with 1834, $5,000,000. Without railroad communication the increase in the last seven years would probably have been double that of the seven years before the roads were constructed, say $10,000,000; in which case there remains $54,000,000 as the effect of the roads upon the value of property, or $10,000,000 *more than the whole cost of all the roads.* The population has increased 50 per cent. in the last seven years, or as much as it increased in the previous 20 years. This has been the effect of developing resources and concentrating the business so *created* upon Boston, a city less influenced in its growth by foreign immigration than perhaps any other on the Atlantic.—While these vast enterprises have been producing such immense results in Massachusetts, New York has done comparatively nothing. She has depended upon her vast natural resources, and her favorable natural position in relation to the foreign trade.—The result has been that the value of her real estate which was $186,350,948 in 1841, fell to $164,955,314 in 1843, and recovered to $187,315,386 in 1847—or in other words remained stationary. This is the more remarkable that 10,102 new buildings, worth at least $50,000,000, were erected in that time.—There were, however, no railroads connecting distant agricultural, mineral and manufacturing resources with the city, to give activity and vigor to its enterprise. The Erie railroad indeed opened the rich county of Orange, and the Harlem ran a few miles into Westchester; but these did not suffice to feed the growth of the city caused by immigration, and the leading merchants were at last awakened to the necessity of exertion. Under more vigorous action the Erie has been opened to Port Jervis, and is just completed to Binghamton, making 200 miles into the heart of a virgin region and penetrating through the mountains into regions of the N. York central lakes, and in the course of the year it will probably be open to Dunkirk, not only completing a new avenue for western trade, but bringing within command of the city some of the most fertile counties hitherto unavailable.

The coal and iron regions of northern Pennsylvania will also have a new avenue to market, both east and west. The progress of the Hudson river railroad will also by connecting with the northern and central lines give a new spur to business in that direction, and the closing of navigation will no longer isolate New York city from the west. In other parts of the Union similar gigantic undertakings are in progress. Among the important lines in contemplation, is the Mobile and Ohio railroad, descending from the mouth of the Ohio 470 miles, through four States to Mobile, at an estimated cost of $6,850,000. The South Carolina and Georgia railroads to connect those cities with the Mississippi are also stupendous and important undertakings, as is also the completion of the Baltimore and Ohio to St. Louis. With the completion of these lines the Union will be cut transversely by four great railroad routes, viz: 1st, from Boston due west through Canada west to lake Michigan; 2d, from N. York per Erie railroad to lake Erie, thence to Sandusky and Cincinnati: 3d, Baltimore via Cincinnati to St. Louis; 4th, South Carolina and Georgia via Tennessee and Alabama to the Mississippi, and the western termini of all will be intersected by the Mobile, Ohio and Chicago railroad. There are three great arteries of trade which will be fed and supported by lateral veins, or lines, reciprocally promoting the welfare of each other, cementing the bonds of Union and quickening the activity of general trade as the national wealth is developed, enhanced and distributed.

[From the Philadelphia "Commercial List."]

Pennsylvania Coal Trade for 1848.

From the Lehigh Mines.

The amount of coal shipped from the Lehigh mines during the week ending the 2nd inst., and since the opening of the navigation, has been as follows:

	This week. tons.	Total this year—tons.
By Lehigh company, Dec. 5.	319 05.	214,840 17
By Room Run ..... "	1,314 02.	121,207 04
By Hazleton.....	155 16..	86,649 16
By Beaver Meadow.....	864 11..	83,249 00
By Buck Mountain.....	125 10..	71,101 00
By Spring Mountain.....	1,288 04..	64,416 02
By Cranberry Mines.....	377 00..	18,700 00
White Haven.....	..	..10,427 16
Diamond Co.....	122 09..	6,391 10
Total.....	4,546 17.	676,974 05

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 7th inst., and since the 1st of January, has been as follows—

	Tons
From Schuylkill Haven.....	6,679 06
" Pottsville.....	1,787 06
" Port Carbon.....	5,922 01
" Port Clinton.....	1,590 01
Total this week.....	15,978 14
Total this year.....	1,177,267 07

The amount of coal brought to market by the Schuylkill canal during the week ending the 7th inst., and since the opening of the canal, has been as follows:—

	Tons.
From Pottsville and Port Carbon.....	3,653 12
" Schuylkill Haven.....	1,178 03
" Port Clinton.....	386 17
Total this week.....	5,218 12
Total this year.....	433,287 08

Recapitulation.—Total Shipments this Season.

By Lehigh companies.....	676,974 05
By Reading railroad.....	1,177,267 07
By Schuylkill canal.....	433,287 08
Total.....	2,287,529 00

Railroads in Maine.

We find in the Portland papers of 2d inst., an account of the opening of another section of the Atlantic and St. Lawrence railroad, and of the first section of the Androscoggin and Kennebec railroad.—The Advertiser says, "On Saturday last an experimental trip was made on the railroad to Lewiston, being a distance of 27 miles on the Atlantic and St. Lawrence road, and 6 miles on the Lewiston road, 33 in all.

"There were about 200 passengers, including our mayor and other city officers, on invitation of the president of the road. And although the weather

was extremely unpleasant, all appeared highly pleased in view of the flattering railroad prospects of our state of which this is an important era.

"There are now chartered within our limits more than 650 miles of railroads, passing through most important sections of our state, nearly 300 of which are now in the course of construction. Lewiston Falls, affording one of the best water powers in New England, are now united with Portland.

"In another direction, the York and Cumberland road is progressing, and the water power at Saccarappa will also be united to Portland by railroad in a very short time. At every step in the progress of these great works, the public are more and more convinced that they will fully justify the most sanguine anticipations of their friends both in profits to the stockholder and their effect on the business and prosperity of our state. This is an important era in the history of the state of Maine."

Truly is it said by the editor that the present is an "important era in the history of the state of Maine"—and just in proportion to the extension of the railroad system in the state, is the era important.

The Argus says, "The run was made in an hour and a half. The new road from North Yarmouth is in good condition, and was highly satisfactory.—That from North Yarmouth to Portland is as even as a floor—as the other will be after it gets settled. The occasion of opening the continuation of this road towards Montreal and Waterville is one worthy of rejoicing. It is a victory over natural obstructions, and man's opposition, that our citizens may well be proud of. We heard congratulations exchanged on every hand, on the occasion—and we could but feel that it was a proud day for the enterprise—the forerunner of many others yet to come, as the roads advance to their destined completion."

Of the road from Portland to North Yarmouth, we can speak from personal observation, as one of the best laid and easiest riding roads in New England; and we can also speak in high praise of the machinery—or locomotives and cars—upon it, which are from the manufactory of the "Portland Company," and do great credit to the managers and workmen of that establishment.

With a proper appreciation, and support, of these enterprises by the wealthy men, and owners of property, in and about Portland, they will richly repay all interested, and make Portland a city to be known and respected by others, at this time, of much greater pretensions.

Gunpowder on Railways,

Description of Cars for Conveying.

It may not be generally known, says the London Railway Journal, that large quantities of gunpowder are frequently and safely conveyed by railway, as much as eleven tons in one day, and in the course of a few months, above 100 tons of gunpowder have been carried on the London and North Western to Liverpool, Manchester, Leeds, and other places.—The wagons in which the gunpowder is conveyed, are made expressly for the purpose. There are 8 of these wagons on the London and North Western railway, constructed in accordance with the patent of Mr. Henson. The body of the wagon is formed with sheet iron on the outside; the inside is lined with two-inch iron plank, between which and the iron outside a thickness of felt is carefully placed.—These are screwed together from the outside, so that there is nothing but wood inside; except on the floor which is covered with sheet lead. The door fits so close with a double rabet, that it is almost air tight, and it is therefore impossible for any fire to get to the powder inside the wagon. The axles are cased with wood. The comparative absence of the usual noise and vibration in the movement of these powder wagons, is very remarkable.

Plank Roads.

This new plan of road is becoming more and more popular, and is sure to be extensively introduced wherever there is timber suitable for them—and they are sure to become extensive and useful feeders to railroads, as is shown by the following paragraph from the Utica Herald:

"*Plank Roads.*—There are four plank roads extending from this city into the country, and the am't of travel upon them greatly surpasses the estimate of their projectors. The Northern road, which is 22 miles in length, is doing more than double the amount of business that was anticipated. This road was constructed at an expense of over $2,500 a mile, which is nearly double the cost of roads over favorable routes. There are three gates on this road.—The receipts at the first gate for the week ending the 18th ult., were $90. If the receipts continue at the same rate, the profits of the road must pay the whole cost of its construction in four or five years."

The road, here referred to, will, at an early day, be extended through Lewis, Jefferson and St Lawrence counties, to Ogdensburgh, thus connecting the Northern railroad with that through the centre of the state.

The great advantage and convenience of plank roads will be found in their being open to all persons, and all sorts of travel and transportation.

The people of Ohio are also moving in the matter, as will be seen by a "meeting of the citizens of Chagrin Falls, held on Monday, the 27th ult, for the purpose of advancing the interests of the Cleveland and Chagrin Falls plank road company; whereupon Aaron Bliss, A. L. Soule, and R. Taylor were appointed a committee to solicit the subscription of stock to said road."

Passenger Fares on English Railways.

We copy from the report lately published, the fares actually charged by a few of the railways per passenger per mile:

	1st class.	2d.	3d.
	d.	*d.*	*d.*
Bristol and Birmingham	2·64	1·75	0·94
Eastern Counties	2·30	1·53	0·97
"	1·91	1·30	0·79
Great Western	2·74	1·88	
London and North Western	2·18	1·45	0·91
London and Brighton	2·63	1·71	1·18
London and South Western	2·87	1·89	0·96
" "	2·03	1·43	
Midland	3·00	2·00	1·00
South Eastern	2·29	1·54	0·90
"	2·00	1·25	1·00
York and North Midland	2·25	1·75	1·25

Pennsylvania Railroad.

The Pennsylvania railroad, now in course of construction, from Harrisburg to Pittsburg, at the head of the Ohio river, will be 251 miles in length, making the whole distance from Philadelphia to Pittsburg 358 miles. This line crosses the Allegheny mountains at Sugar Run Gap; and from Harrisburg to the base of the mountains, a distance of 133 miles, the line follows the valley of the Juniata river, and has no grade greater than 21 feet per mile.—The curvatures are easy, and the road adapted to high velocities. The mountain is ascended on the eastern side by 13·3 miles of a high grade of 80 feet per mile, similar to that of the Western railroad of Massachusetts. The summit of the mountain is then passed by a tunnel 700 yards long, and the line from the summit to Pittsburg is 106 miles long, with a maximum grade of 53 feet per mile.

The railroad distance from Pittsburg to Cincinnati will be 330 miles by the way of Massillon, and Wooster and Columbus, while the distance by the Ohio river is 495 miles, or one half longer than the railroad, and the railroad may be traversed in about one-fourth the time required by steamboats on the river. The railroad in Ohio, for the greater part of its length, will traverse the table lands of that state, which are very favorable for railroad construction.

New York Canals.

The Albany Evening Journal says: "The tolls received up to the 22d ult., on all the canals, was $3,217,852 39. They may possibly reach 3,300,000 before the close of navigation—but they are more likely to fall 25,000 or 30,000 short of that sum. But this will be satisfactory. Very few supposed that they would reach 3,000,000, although last season they exceeded 3,600,000. But the last was an extraordinary year. The famine demand for our breadstuffs in Europe, caused an unparalleled movement of flour, wheat, corn, etc., from the west, during nearly the entire season. Every available craft was called into requisition. The canal was filled to its utmost capacity, and revenue flowed into the treasury with a rapidity equally unexpected and gratifying. To such an extent did this demand effect the revenue, that the tolls of 1847 exceeded those of 1846 nearly one million, although the foreign demand was felt for several weeks, towards the close of the navigation of the latter year.

"The comparatively abundant crops in Europe last autumn, precluded all hope of heavy exportation during the season just closed; and it was very generally supposed that the tolls of 1848 would show but a slight increase, upon those of 1846. And the receipts of *that* year, rather than those of the last, were made the basis of the estimates for this year. Some of our most experienced financiers estimated the receipts of 1848, at 2,800,000; others at 3,000,000: and the most sanguine at 3,300,000. The result shows that it is only the sanguine who can approximate accuracy when estimating upon the vast and increasing trade of the great west."

Virginia Canals.

We find the following report of the chief engineer of the "James River and Kanawha Company," in relation to the improvement of the western portion of their line, in the Richmond Republican, and give it a place in the Journal.

RICHMOND, November 30, 1848.

Dear Sir: In compliance with the request of the committee of which you are the chairman, I beg leave, through you, to lay before them the following memoranda.

There have been, from time to time, various plans submitted to the company for the improvement of the Kanawha; sluices, shutes and canals in the river, have been severally recommended, and then various combinations of these plans, with a dam occasionally thrown in, have also been proposed.

I would myself recommend the lock and dam system. Upon this plan of improvement, between Charlestown and the Ohio, a distance of about 58 miles, with a descant of 45 feet, there will be three dams, one at Arbuckle's shoal; one at Red House shoal, and one at Tyler's shoal; the first 16 miles, the second about 33 miles, and the third about 53 miles from the Ohio. The cost will be about as follows:

For a dam and lock at Arbuckle's shoal, including land damages	$80,000
Do. Red House shoal, do	70,000
Do. Tyler's shoal, do	60,000
For opening a channel through 13 miles, shoal below Arbuckle's, and deepening the heads of the ponds	5,000
Total cost of improvement between Charleston and the mouth of the Kanawha	215,000

From Charleston to Loup Creek shoal, the distance is 32 miles and the fall 38 feet; three dams would also be required here, one at Catfish shoal, 11

miles above Charleston, one at Point Creek shoal, about 21 miles above Charleston, and one at Lykin's shoal, about 25 miles above Charleston.

The probable cost for a dam at Catfish shoal, including a lock and land damages	$60,000
Do. Point Creek shoal, do	60,000
Do. Lykin's shoal, do	60,000
For deepening the ponds	5,000
Total cost from Charleston to Loup Creek shoal	185,000

Loup Creek shoal is about five miles below the Great Falls; in this distance the fall is about 22 feet. If it be desired to extend the improvement up to the foot of the Great Falls, two dams more would be required, and their cost would be about 60,000 each.

The above estimate is for contract prices. If the dams are built on the company's account, the estimate may be reduced 20 per cent.

Yours, very respectfully,
WALTER GWYNN,
Chief Engineer, J. R. & K. Co.

Col. W. M. PEYTON.

It is possible that the great interests of Virginia may be best promoted by this mode of improving the navigation of the Kanawha, but we cannot possibly see it. If the State can raise 200,000 dollars to expend on the west side of the mountain, why not expend it in that way which will do the most service and pay the best returns? Build such a work *now* as will be used *hereafter*, and not do as Pennsylvania *did*, and then after a few years have to do as Pennsylvania is *now doing*, viz; building a railroad directly along side of, or *near to, her canals!* If, however, the State is able to make a canal *now*, and then, in a few years, make a *railroad* also, the people may be content to *wait*, but there is, in our opinion, nothing more certain than that a railroad *must be eventually* constructed, from the Ohio to the water, in Virginia, whatever other plan may *now* be adopted. And we now desire to put on record the opinion, and respectfully to direct the attention of those who lead in the matter, to what is now doing in this State.—*As it is here, with our canals*, so will it be eventually in Virginia—they *must* and *will* have railroads.—Where else, than in Virginia, do we hear of the construction of a long line of canal to *connect* two important points for travel and transportation? Echo answers, *where?*

Advantages of the Telegraph System when Properly Managed.

The following extraordinary feat in telegraphing an *acre, nearly*, of words, as described in the Baltimore American, by Messrs. O'Reilly and his associates, shows what may be accomplished when rivalry urges enterprise. May we not imagine that it would have been *after this*, when such an extraordinary performance would have taken place, had there been no rivalry in the field? And it would seem by the accompanying article from the Cincinnati Gazette, that the telegraph may be used for much nobler purposes than that of sending political disquisitions and electioneering documents. It may save many a noble fellow, and staunch ship, by sending a few words *ahead of the wind*.

We give first an account of what *has* been done, and then of what *may* be done.

WONDERFUL TELEGRAPHIC FEAT.

One of the most astonishing feats in telegraphing, says the Baltimore American, of 7th inst., has just been accomplished between this city and St. Louis, Mo., in the transmission of the president's message between the two cities. Messrs. O'Reilly, of the Atlantic and Lake telegraph company, and H. J. Rogers, of the American telegraph company, wishing to prove beyond all cavil, that the *lightning line* could be made available for the transmission of large documents as well as for short messages, determined to take advantage of the president's message as a test, little thinking at the time that it would be of the very inordinate length it has proved to be. For this purpose they stationed the most experienced operators on the various lines under their charge, extending from Baltimore to St. Louis, Mo., the starting point being in this city, where the message was received at 25 minutes before 2 o'clock, by government express from Washington, and by horse express from the Mount Clare depot to the telegraph office in the Exchange. Messrs. Reddish & Hough of Philadelphia, connected with the O'Reilly line, having been detailed for the most important part of the duty to be performed, that of writing the entire document in Baltimore, commenced their arduous task on Tuesday, shortly after its receipt, and at a few minutes before 2 o'clock Wednesday afternoon finished their almost Herculean undertaking—at which hour the signature of James K. Polk and the Washington date were written as plainly and legibly as the caption had been, 24 hours previously.—The two operators were at work, relieving each other occasionally, during the entire time, with the exception of a couple of hours yesterday morning, when they were interrupted by a storm at the western end of the line. They wrote the message out in full, following the copy *verbatim*, even to the punctuation and paragraphs—a thing not usually done in telegraphing. The operators at this end of the line did not keep a register of the number of words contained in the document, but are of the opinion that from the time occupied there cannot be less than *fifty thousand*. In its progress to St. Louis, the message was dropped at the following stations on the line, viz: York, Harrisburg, Carlisle, Chambersburg, Bedford and Pittsburg, in Pennsylvania: Massillon, Cleveland, Zanesville, Columbus, Dayton and Cincinnati, in Ohio: Madison and Evansville, in Indiana; Louisville, Kentucky; and Saline, in Illinois; a large portion of the message reached Buffalo, New York, but the connection was boken off by a storm prevailing at that end of the line before its completion; it was also received at all the minor intermediate stations between this city and Evansville, Indiana—the above mentioned places having all acknowledged its receipt entire. This is truly a wonderful performance, and the gentlemen connected with the enterprise have succeeded in their arduous undertaking in a manner proving them to be able to accomplish anything they may make up their minds to in the telegraph line. The idea of a document filling 12 columns of the Washington Union, or upwards of eight closely printed columns of the American, appearing in print in a city nearly *one thousand* miles distant from Washington, 24 hours after its delivery, is almost beyond belief, and is, perhaps, one of the greatest feats ever performed in this or any other country. As the enterprise was conceived and carried out by the Messrs. O'Reilly and Rogers gratuitously, they certainly deserve, and will no doubt receive the thanks of the entire western press.

THE TELEGRAPH AND METEROLOGY.

The most extraordinary result of the electric telegraph we have seen, says the Cincinnati Gazette, and one of the most decidedly useful, is connected with meterology. The *telegraph* now gives *notice of storms!* For example, the telegraph at Chicago and Toledo now give notice to shipmasters at Cleveland and Buffalo, and also on lake Ontario, of the approach of a northwest storm. The result is practically of great importance. A hurricane storm traverses the atmosphere at about the rate of a carrier pigeon, viz: sixty miles an hour. An extremely violent wind may go faster. All our great and violent storms traverse immense regions of country; in fact they are whirlwinds on a vast scale, and curving over the earth as they pass along. In the space of a thousand miles, however, the direction is nearly the same. Our northwest winds come apparently from the sources of the lakes, and, sweeping over lakes Superior, Michigan and Erie, spend themselves in the interior of the country. Our southwest winds (which prevail three-fourths of the year) come apparently from the Gulf of Mexico, where the force is very great, and pass up the general direction of the Mississippi and Ohio. Commencing at these remote points, it is obvious that if telegraphic offices are established at extremes of the line, notice of the approach of a violent wind may be given to distant ports from 12 to 20 hours before it will be felt there. The practical effect will be, that a vessel in the port of New York, about to sail for New Orleans, may be telegraphed 20 hours in advance that a southwest storm is advancing on the coast from the gulf of Mexico. The storms are governed by uniform laws, so that when they begin in a certain direction, and with a certain force, it may be certainly known that they will proceed along the coast. When it is considered what an immense loss in vessels, merchandise, and lives occur along the coast from these occasional storms, it will be seen how very valuable will be the service rendered by the telegraph in this way. We are only on the threshold of the real substantial advantages which may be rendered by the electro telegraph. Already have notices of storms on the lakes been given from Chicago and Toledo to Buffalo.

In connection with this subject, we may mention another great advantage in this way. It will be a great benefit to meterological science to know the state of the temperature and winds at the same moment in different points. The comparison will enable us to know the general laws which govern atmospheric changes. This is a part of science which has never been reduced to exactitude; but by which more may be done now in one year than has been done in a hundred years, if observations are directed to this subject. We shall soon see new developments in this and in other branches of science.

SARATOGA AND WASHINGTON RAILROAD.

Pursuant to the requirements of the act entitled "An act to incorporate the Saratoga and Washington railroad company," passed May 2, 1834, the directors make the following report:

The preliminary surveys of the road of this company, were commenced in 1835, and the grading of a portion thereof in 1836. This was continued down to near the close of the autumn of that year; when, owing to the non-payment of the second instalment, due on the stock by a large portion of the stockholders, attributable to the deranged state of the monetary affairs of the country, the work was suspended. The expenditures which were made by the company from the commencement of its road till the 30th January, 1847, as appears from the books of their president, and which were mostly incurred in 1835, 1836 and 1837, for engineering, grading, the purchase of lands, and the commencement of a bridge over the Hudson river, were 67,953 03 dollars.

In February last, the directors having suc-

ceeded in obtaining new subscriptions for much of the stock which had been forfeited for the non payment of the second instalment felt themselves authorised to revive the work with a speedy view to completion. For this purpose they entered into a contract to complete the road, including grading, superstructure, a bridge over the Hudson river, a heavy iron rail, and the laying thereof from Saratoga Springs to fort Ann, a distance of about 30 miles, by the first of July, 1848, for the sum of $448,000. In July thereafter the directors made a further contract to complete the road in like manner 9 52 miles further by the first day of October next for the sum of $176,165, and in November thereafter a further contract was made to complete the road to White Hall, a distance of about two miles. As the estimates for grading were at different prices by the cubic yard, depending on the nature of the excavation and embankment, the amount thereof cannot be fully detetermined till the work is done.

The present capital of the company is $850,000, on 600,000 of which 75 per cent has been called in, and nearly that amount paid. Of the remaining 250,000, which is new stock authorised by an act of the Legislature to be created, the payment of $100,000 is secured by the company, and 10 per cent. has been paid on about 60,000, leaving about 90,000 to be disposed of.

The expenditures of the company down to the 30th of January last, as before stated were,		67,953 03
Since then the expenditures have been as follows:		
For lands, fencing, damages, removal of buildings, expenses of procuring title, &c.	65,314 96	
For engineering,	9,342 97	
For grading,	145,660 70	
For iron rails,	90,000 00	
For interest paid to stockh'lds	4,724 12	
For miscellaneous expenditure	7,446 13	
		322,448 88
		390,401 91

In behalf of the directors of the Saratoga and Washington railroad company.

G. M. Davison, *Pres't.*

Saratoga Springs Jan. 8, 1848.

Railroad to the Pacific,

(*From the Journal of Commerce of Sept.* 16*th.*)

NEW MEXICO AND CALIFORNIA.

Continued from page 789.

The following observations were made after he (Major Emory) was separated from his assistants, and instruments; his mind being, as he says, "engrossed with other subjects. The information is therefore less precise than that contained in other parts of my journal.—p. 24.

"The region extending from the Gulf of California to the parallel of the Puebla, or Cindad des los Angeles, is the only portion not heretofore covered by my own notes and journals, or by the notes and journals of other scientific expeditions fitted out by the United States.

"From this remark is to be expected the vast basin created by the Colorado, and the country lying between that river and the range of the Cordilleras, represented as running east of the Tulare lakes and south of the parallel of 36°, and the country between the Colorado and Gila rivers.

"Of these regions nothing is known except from the reports of trappers and speculations of geologists. As far as these accounts go, all concur in representing it as a waste of sand and rock, unadorned with vegetation, poorly watered, and unfit it is believed, for any of the useful purposes of life. A glance at the map will show what an immense area is embraced in these boundaries.

"Alta California, between the parallels of 31° and 34° of latitude, presents to the eastern man, accustomed to navigable rivers and broad estuaries of the ocean, topographical features of a very unusual character.

"Two chains of mountains traverse the country in a direction nearly parallel to the sea coast, converging towards each other, and unite near the paralel of 32°,—and form the promontory of Lower California.

"The second or principal range lies at no great distance from the first, and the valley between offers some arable land. The distance from the first range and the sea coast varies from one to twenty or thirty miles.—The surface covered with vegetation is difficult to estimate, and perhaps it is unimportant that an estimate should be made, since the productiveness of those regions depend on other considerations than smoothness of surface and character of soil. The rains cannot be depended upon, and the tiller of the earth depends upon irrigation from the mountain streams for his crops. The extent of ground capable of tillage is thus reduced to very narrow limits, easy of computation. A knowledge of the water courses, their fall, volume and extent, and the quantity of land on their margin, within the level of these waters, are the data on which to base the computation.

"Taking this as a guide, an inspection of the accompanying map will give a general idea of the extent of arable land, sufficiently correct for all practical purposes; but in candor it should be said that many streams laid down in it disappear in the sand, while the rocky cliffs, forming the banks of others, render irrigation impracticable. The scale upon which the map is projected is too small to represent these accidents of the ground.

"Where irrigation can be had in this country, the produce of the soil is abundant beyond description. All the grains and fruits of temperate zones, and many of those of the tropical, flourish luxuriantly.—p. 125.

"The western line of Arkansas and Missouri, extend to 94½° west longitude, and the region of the poor lands without rains, commence at 98½° longitude. This intermediate space is occupied by the removed Indians.—A route through Arkansas or Missouri, except to run north or to the general route to Santa Fe, would be impracticable. For a part of the year the streams flood the country, and no considerable amount of land applicable to the work. Therefore here are no lands, even on the first part of the route; and when we reach the Rio del Norte, we find the quality of the land suitable to sustain population even by irrigation, very small indeed; and that too already occupied, perhaps nearly to its full capacity.

"The elevatiens of this route were taken by Lieut. Emory daily, and often several times in a day, commencing on the Kansas river, 850 feet above the sea, and running up to 7754 feet, where they crossed the Raton," Aug 7th, 9 days before their arrival at Santa Fe, over a variety of surface. Elevation of Santa Fe 6846 feet. Then in 19 days over a variety of surface, descend to 4138 feet, and in five days up to 6167 feet. The next day down to 4587 feet, and thus varying up and down to the Colorado, 176 feet above the sea. Thence between that and the Pacific over a "pass" 3050 feet, then immediately down to the ocean.

Mak., on July	20, 29	miles to av.	33	ft. p. m.
" Aug.	2 to 7, 30	" "	53½	"
" "	7, 7	" "	83½	"
" "	9, 47	" "	35	"
" Sept.	21, 40	" "	49½	"
" "	29, 46	" "	44½	"
" Oct.	17, 38	" "	33	"
" "	20, 8	" "	225	"
" Nov.	1, 10	" "	220	"
" "	6, 38	" "	42	"
From the Colorado to the ocean.				
" Dec.	1, 15	" "	141½	"
" "	6, 10	" "	233½	"

Lieut. Emory makes the distance from Fort Leuvenworth to San Diego . . . . 1916 miles.

Col. Cook's bend to the south, before the Colorado, gave a better route, but must have increased the distance at least . . 150 miles.

Making, . . . 2066 miles.

Now the distance from San Diego Shanghai would be full 1000 more than from Puget sound to the same place. . . 1000

3066

Now Memphis is 4 deg. 32 min. east of Fort Leavenworth, and is from the topography of the country, a route from Memphis must run north-west until it would strike the Fort Leavenworth route to Santa Fe, the distance would therefore be greater than from Fort Leavenworth.

From the maps published by order of the Senate, arranged from Col. Fremont's report, by Mr. Pruess, it appears that the distance from Westport, Missouri, (about half a degree east of Fort Leavenworth) to Wallah Wallah on the Columbia, is, via the "south pass" and the route of emigrants, but 1670

On a line from Wallah Wallah to Puget sound, is not over 120 miles, but a good route may be had at less than . . 200 miles.

1870

The route from the south pass to Wallah Wallah would be considerable shorter, by following the Salmon river which entirely turns the mountains. It is not now practicable for wagons, but it is practicable for a railroad at low grades. Lake Michigan is but 6½° east of Westport; therefore, on a line from the lake to the pass, only about 300 miles would be added, with a far more feasi-

ble route than the other, and the lands adequate to furnish the means for the work.

Col. Fremont, in his memoir to the Senate, represents that there is in the Sacramento valley, 50 to 60 miles wide by about 500 long of the very best land,—the northern part producing wheat and other grains without irrigation. He also represents a considerable extent of bottom land on a river in the "great basin." This, then, is all of the immense territory, which in the opinion of many, now threatens to divide our glorious Union. Col. Fremont says there is a good route for a railroad from the "south pass" to San Francisco, with a country suitable to sustain population on nearly the entire route. —As California is, without a direct railroad communication, it can be of no use to us, and all we expend upon it, or Oregon is but fostering and rearing, with a hot-bed force, a rival to compete with us for the commerce of all the world; and in time entirely supplant and control us.

Take California, with all Oregon below and above 49°, Vancouver's Island, and other islands, together an immense agricultural country, with the best climate in the world with all its advantages for a manufacturing population, with its fisheries—more extensive and valuable than all the world beside—a cod fishery extending to the entire coast of Japan and China; and then its position, fronting all Asia with a population of 700 millions,—and will not such advantages soon draw the enterprise, capital and surplus population of the world to it? And of what benefit is it all to us, without the means of a direct communication? We cannot buy their products because we have the same for sale, and must both seek the same markets. No exchanges can take place between us. They must and will command the markets of all Asia,—a commerce entirely their own. They can exchange many of their products with Europe, but we can take nothing from them, and they cannot benefit by the connection. Differing from our interior wilderness, the settlers in which must go through or from our old states, their products must come to us for a market. We exchange and receive the benefits of their labors. But Oregon and California must send everything from us, and to compete with us. Even the whale fishing (a now very important branch of our commerce) must and will, (so soon as we establish and sustain laws with force to render persons and property safe), be transferred there altogether. The vessels can enter at Vancouver's Island, and the oil be sent to England. And would the people of Oregon and California pay 30 per cent. duty on imports, to go to the foreign government from which they could receive no benefit.

I am not mistaken in my views, and every man of reflection who will examine must see as I do.

Without a railroad to connect us directly together, by which the commerce and intercourse of Europe with Asia could be drawn across our continent, so that we might participate in each other's local position and advantages, we can neither receive any benefit from each other, but our interests will be separate, distinct, and conflicting.

I am not mistaken; all Europe is tumbling to pieces, groaning under a load which cannot be borne. The enterprise and surplus population must go somewhere—and where but to this continent? And where such a field as Oregon and California? Nor is it idle to fear that *all* of England's power may be there transferred under a free government. Commerce and civilization have always travelled west together; and when to the Pacific coast, the globe will have been encircled, and all controlled. It is now all ours, within our grasp, and shall we throw it from us forever?

Truly yours, A. WHITNEY.

Messrs. Hale & Hallock.

New York, Sept. 12, 1848.

Baltimore and Ohio Annual Report.

Continued from page 793.

ENGINEER'S OFFICE, BALT. & OHIO R. R. }
Baltimore, Oct. 1st, 1848. }

Hon. LOUIS MCLANE, President.

SIR:—The second annual report of this department, under the revised organization of the service which went into operation upon the first of May, 1847, is herewith respectfully submitted under the following arrangement of the several subjects to be noticed.

I. *The Working of the Road*, viz:

1st. The maintenance and improvement of the road. 2d. The maintenance and improvement of the machinery. 3d. The conduct of the transportation. 4th. The revenue expenditures and trade.

II. *The Extension of the Road*, viz:

1st. West of Cumberland.

2d. East of Mount Clare.

The principles upon which the new organization has been framed are detailed in the last annual report. It has worked well, although with some drawbacks upon its efficiency, which may be briefly mentioned.

The want of suitable *scales* for weighing freight at most of the stations. This deficiency has now been remedied, and each of the thirty-nine stations upon the line is fitted with the necessary accommodations for this purpose. The time required to effect this object, however, postponed the application of the new system to the tonnage business of the road, until the 1st of March last.

The absence of *enclosures* to the several stations, whereby the operation of the ticket system in the passenger business, with its salutary checks is made imperfect. The erection of these enclosures would require an outlay as yet considered inexpedient; but which must ultimately be made. The same deficiency exists upon the other railways of the United States. In Europe the abundance of capital permits the construction of the stations in the most perfect manner, and the cheapness of labor allows the employment of the police required to carry the necessary regulations into full effect; while the travel resulting from a dense population requires every precaution in the collection of the revenue from passengers, and warrants the expense attendant upon its adoption.

Another difficulty in the execution of the new system has arisen from the nature of some of the agencies employed. The agents of the second class stations upon the line, not being regularly salaried officers of the company, the services required of them are not performed with the precision which would otherwise be expected of them. This inevitably results from the present circumstances of the work, which, passing chiefly through a sparsely settled country, would not warrant the employment at these stations of a class of agents whose exclusive attention to the company's business would have to be secured by a compensation amounting in some instances to more than the entire revenue yielded by the station.

In addition to these observations, it is proper that I should state, that the performance, in their numerous details, of the duties devolved by the system upon the *General Superintendent*, has been, as the board are aware, impracticable, in consequence of the large proportion of the time of the officer acting temporarily in that capacity which has been necessarily devoted to his other and primary engagements as chief engineer; and which have withdrawn him frequently and for long intervals from the road.

These several impediments, not inherent but accidental, being removed, as they must in time be, the new system will without doubt realize all its anticipated advantages, as it is unquestionably founded upon sound principles of administration.

I proceed now, in order above indicated, to submit the several results of the operations of the road, during the year ending this day, with an account of its present condition, and comparisons with its own working of the previous year, and that of some other leading lines in the country.

I.—OF THE WORKING OF THE ROAD.

Maintenance of Road.—Main Stem.

1. *The Road Bed.*—There is but little remark to be made under this head, excepting what will be said hereafter upon the *improvements* east of the Monocacy river. The road surface, culverts and drains are generally in good condition and have suffered little from water during the past year.

2. *The Railway Tracks.*—At the beginning of the year just expired (Oct. 1st, 1847) there were the following lengths of track of different kinds:

Harper's Ferry

Plate rail, east of, laid in 1830–31,	51	miles.
H rail, east of, laid in 1838,	19	"
∩ rail, west of, laid in 1841–2,	97	"
∩ rail, east of, laid in 1846–7–8,	41	"
Making a total of	208	

Since the 1st of October, 1847, there has been laid east of Harper's Ferry, 17 miles of ∩ rail, in place of an equal length of plate rail; so that the account stands thus at this date, Oct. 1st, 1848:

Harper's Ferry

Plate rail, east of, laid in 1830–31,	34	miles.
H rail, east of, laid in 1838,	19	"
∩ rail, west of, laid in 1841–2,	97	"
∩ rail, east of, laid in 1846 7 8,	58	"

Of the 61 miles of ∩ rail directed to be laid east of Harper's Ferry, there are therefore but 3 miles still to lay, the materials for which are provided, and will be put down as soon as the new gradation of the parts of the road for which they are intended is ready to receive them.

Apportionment of the Cost of Repairs of Railway among the different kinds of Track upon the Baltimore and Ohio Railroad, during the year ending September 30th, 1848.

Description of Track.	No. of miles.	Cost of labor.	Cost of lumber.	Cost of iron bars.	Cost of castings.	Cost of bolts and spikes.	Miscellaneous.	Deduction for old materials sold and for stock on hand.	Average cost per mile.	Total cost.
Plate rail.....	44	$18,420 79	$10,471 64	$4,136 54	$1,597 08	$3,447 19	$6,560 11	$4,193 57	$920	$40,440 78
									821	
H rail.....	19	9,109 85	5,437 66		1,312 15	1,902 97	1,752 13	3,242 13	820	15,572 63
									756	
∩ rail east of H. Ferry	48	16,138 28	1,200 00		651 36	392 60	2,390 37	4,664 22	336	16,108 39
									269	
∩ rail west of H. Ferry..	97	45,542 28	49,462 42		4,782 58	5,036 41	2,865 75	12,446 19	983	95,243 25
									933	
Totals.....	208	89,211 20	66,571 72	4,136 54	8,343 17	10,079 17	13,568 36	24,545 11	805	167,365 05
									744	

The above aggregate of $167,365 05 agrees with the statement of the Treasurer—but there must be deducted the sum of $3,066 38 for increased stock of materials on hand, which leaves 194,298 67, as the true cost of maintenance.

The above amount embraces the expense of maintaining no less than 21 3 8 miles of siding and depot tracks.

Of the 34 miles of plate rail remaining upon the road, 2 miles is in the city of Baltimore, between the City Block and Mount Clare depot—13 miles in the second track between Mount Clare and Ellicott's Mills—13 miles in the second track between Parr's Ridge and the Monocacy, 3 miles in the Frederick branch, and the 3 miles ready to be relaid as above. The lighter half of the business of the road passes over the second and third of these sections, which has made it the more practicable to keep them up. The section in the city of Baltimore has been relaid during the year with a thicker bar, and upon timber instead of stone, as will be noticed under the head of "Improvements."—The Frederick branch being short and the weight and speed of the trains moderate, may be maintained well enough with the plate rail. Nevertheless the expediency of reconstructing the whole of this track with a heavy rail, so soon as the means of the company will allow, cannot be questioned.

The cost of the current repairs of the track thus composed, has, during the year just ended, been as exhibited in the following table. The number of miles of each kind of track is the *average* kept up throurh the year, the ∩ rail east of Harper's Ferry increasing as the plate rail decreases in extent. In the column of "cost per mile," the upper figures opposite each description of rail, include the ditching, &c., of the road bed, not dependent on the kind of track, and the lower figures show the cost of maintaining the track alone.

The preceding apportionment is sufficiently exact to show the relative cost of maintaining each kind of track during the year—and from it may be inferred that if the plate rail had been entirely superseded by the ∩ rail, the saving in current repairs would have been $22,288 00.

During the preceding year, ending September 30th, 1847, the total cost of maintenance was $131,926 30. The expense then of the present year exceeds that of the last by $35,438 75. This is chiefly due to the extensive renewel of the wood work of the H rail track, and of the ∩ rail track west of Harper's Ferry, which last as noticed under this head in my last annual report, (see page 36), is now in the seventh year since it was laid, and is passing through the period of entire renovation, which will be completed by the end of the current year terminating with 1849. The repairs of the coming year will, however, be very considerably lighter than those of the year just closed.

Some remarks upon the character and wear of railway tracks may be appropriate in this place,—as an impression appears latterly to have prevailed that the description of track laid west of Harper's Ferry in 1841 42, and east of that point, in the reconstruction of the road in 1846 7 48, is more costly to maintain as well as to construct, and otherwise imperfect in its structure. This plan of track was adopted by the board for the road west of Harper's Ferry after a careful consideration of the whole subject by their late chief engineer, J. Knight, Esq., aided by the undersigned. The H rail track, of which the company had 19 miles laid in 1838, had, in their judgement, shown serious defects in its structure, similar to those apparent in tracks of the same kind on other roads, and which they believed would in a great measure obviated by the use of a continuous bearing of timber under a rail of the same weight, but of a form better calculated to *wear* well. They therefore chose the ∩ or bridge rail in connection with a string timber for its support. The subsill used upon most other roads at this time was retained, and in consequence of the use of this additional longitudinal timber the number and size of the crossties were so much diminished as to give very little mere perishable matter in the track,—than in those laid upon crossties only. The only changes, therefore, in the plan of 1838, were in the form of the rail and the introduction of a light wooden bearer under it, which breaking joints with it, gave a great increase of strength at the end of the bars,—and supported the rail and held it much better in place *lengthwise*, than it was practicable to do with the crossties alone. This part of the plan was not new; but had been in successful use on the Washington branch road for several years. It was also a feature in some of the principal lines in England, and was advocated and preferred by some of the most distinguished engineers of that country, and was growing into favor in America also;—the first section of the New York and Erie railroad having been laid in that way. It is true that in New England and other parts of the United States, the continuous bearing under the rail was not then used, but the crosstie alone, or in connection with the sub-sill, was preferred. More recently, however, the continuous bearing seems to have recommended itself to New England engineers;—as the great line of railway from Portland to Montreal is to be laid on that plan, and also the road from Portland to Augusta, and what is worthy of remark, the Eastern railroad from Boston through Salem, etc., is being reconstructed with a continuous bearing, having been originally laid upon crossties only.

A similar example, nearer home, is also to be seen in the Philadelphia and Trenton railroad, and the Camden and Amboy railroad, where the continuous bearing appears to be superseding the *system*. In the state of Georgia, it may be added that the continuous bearing is used and considered preferable.—These observations are offered to show that the engineers of the company, at the track of 1841 was planned, were supported by the authority and practice of eminent engineers elsewhere, and that the experience acquired since then has led others to the same conclusions.

In comparing the cost of maintaining this track with that of others of a different form, it is difficult to select any road of sufficiently similar character in all respects to make the comparison satisfactory. The Western railroad of Massachusetts perhaps more nearly resembles the Baltimore and Ohio railroad than any other existing line. Upon the Western railroad, in the year ending December 1st, 1847, the sixth year after its opening for its whole length, the cost of repairs per mile of single track was $1,180; while upon the Baltimore and Ohio railroad west of Harper's Ferry, the cost per mile for the year ending this day, being also the sixth year after its opening, is $983. So that the western road appears to have cost $198 per mile more than the Baltimore and Ohio road. The number of trips made by trains over the whole length of each road, and the operation of that cause of wear and tear, differed but little. The iron rail upon the Baltimore and Ohio railroad weighs but 51lbs. per yard—that on the western railroad from 56½ to 70lbs. per yard; yet the cost, in 1847, of renewing iron on the Western road was $29,119, or at a rate of $213 per mile, while upon the part of the Baltimore and Ohio rail-

road in question it was *nothing* during the year just expired, and promises to be nothing for some years to come. The cost of renewing iron on the western road was, in the year 1846, $24,522, so that within the two years prior to the present, there had been $53,641, spent in renewals of iron. The amount expended before that period is not shown in the published statements of the company, but must have been something, and the renewals this year will probably be considerable, as when iron begins to go, its destruction advances with accelerated speed. That this difference in the wear of the iron has something to do with the general structure of the track as well as the form of the rail, cannot be doubted. The reason simply is that the lighter rail of the Baltimore road is better *supported*, especially at the *joints*, where the chief destruction takes place, and the result of this comparison clearly shows that increased weight in the rail is not of itself sufficient to secure increased durability; but that the form of the rail and the frame of the track have an important influence upon the wear of the iron bar.

It may be observed that the H rail track on the Baltimore and Ohio railroad, laid on crossties, appears, although four years longer in use, to have cost this year less by $176 per mile than the ∩ rail west of Harpers Ferry with the string piece. But it is to be said, on the other hand, that although the H rail track is the older, yet it has not carried much more than the other; as the most of it is on a part of the road where the trade is divided between two tracks. Moreover the iron of the H rail had, when as old as the ∩ rail is now, sustained much injurious wear, and although not many bars have been yet removed entirely from the track, yet a great number are so far gone as to be nearly unfit for further service. The next two or three years, will, it is believed, show a decided difference in the wear of the tracks in favor of the ∩ rail with its continuous timber bearing.

It is objected to the track of continuous bearing, that it is less readily adjusted when out of order, than the track upon crossties alone. This is in a measure true; but on the other hand it is less subject to derangement, so that on the whole it may require no more labor to keep it in order. It is said to be more subject to give way sidewise by the yielding of the timber. There may be more weight in this suggestion; but the difference of risk is after all inconsiderable, so long as the timber remains sound. Accidents from this cause have happened, but they have been always (except in case of decay in the timber) where the curvatures were extreme, and in these cases they have occurred upon the one kind of track as well as the other. After all, however, that can be said on both sides, it must be conceded that in the simplicity of the crosstie track there is much that is attractive; and were means found to obviate the evils arising from the greater imperfection of the joints of the bars on that kind of track it would in the main, be preferable. This, in the opinion of the undersigned, can only be effected by an entire change in the form of the iron rail, by which the advantages of the combination which it possesses with the continuous timber bearing may be realized in the rail itself. Apart from this consideration, however, I am of opinion that it would be unwise to adhere to either plan *uniformly*, but that the one or the other should be chosen as it may be best suited to the local peculiarities of the line; as it is the duty of the engineer always to adapt his modes of construction to the circumstances of his work. Accordingly he did not hesitate, in the report upon the route west of Cumberland, which I had the honor to submit to the board on the 8th of April last, to recommend that the string timber should be rejected and the crosstie alone used (except on fresh embankments where a sub-sill should be temporarily laid) in connection with a heavier rail than would be needed with a continuous bearing, and a more carefully planned and perfect fastening than any of those heretofore used, and whose inefficiency has been so fully demonstrated upon the best railways of the country.

These remarks might be greatly extended, in a further discussion of the subject; but the space already devoted to them is as much as can be spared here, and I would only offer the further remark, that in comparing the wear of tracks on different roads, we should be careful to consider the relative *trade* of each, upon which the wear and tear chiefly depends; and when we see a road of moderate or light traffic apparently in better order than one of heavy trade with a different kind of track, we should not hastily conclude that the difference in the condition of the road is attributable altogether to superiority in the structure of the one which happens to be in the best condition.

To return to the subject of the repairs of the track of the Baltimore and Ohio railroad during the year just expired I would in conclusion, state that although the present renewals are of necessity made with green timber, yet that after the renovation now in progress shall have been completed, which will be in all the curreut year, there will be always a years supply of timber kept on hand so as to permit its thorough seasoning before its introduction into the track—(See last annual report page 36).

3d. *The Bridges.*—The reconstruction of the wooden bridging has been prosecuted steadily throughout the year, and several additional viaducts have been rebuilt in the thorough and substantial manner in which the preceding work of the same kind was executed, and which has continued to exhibit the most satisfactory permanence under the heavy and increasing trade of the road. Of the thirteen large viaducts between Baltimore and Cumberland, nine have been thus built anew, and the remaining four, whose original construction took place under more favorable circumstances than the rest, and which have suffered less from decay and wear and tear, are in the perfectly safe condition which will permit their reconstruction to be effected at the convenience of the company. Much of the materials for rebuilding them have however been provided.

The entire outlay during the past year under this head has been $59,509 18, being apparently $5,854 56 less than in the preceding year. The cost of rebuilding masonry injured by high water, amounted to $2,854-04. The cost of ordinary repairs of wooden bridges is again estimated (as in the last annual report, page 38) at $6,351. The decrease in the stock of materials on hand is $5,003 15. Subtracting the last amount from the sum of the two immediately preceding it, and deducting the remainder from the total amount previously stated, the investment in permaneat improvements of the wooden oridges, chargeable to capital, will be $54,-307 29.

Watching Bridges.—The expense of this during the year has been $8,105 26, being $1,055 61 more than the previous year. No further increase of this item can be required.

4th. Depot Buildings.—For the year just ended the repairs of these structures have amounted to $14,990 85, and $447 46 being deducted for increase in the stock of materials for that purpose, it will be decreased to $14,-543 39, being $1,979 33 less than in the year before. Several entirely new buildings have been put up, which will be noticed under the appropiate head of "Improvements."

5th. Water Stations.—The repairs under this head have amounted to $3,946 83, being apparently $1,496 70 more than those of the preceding year, but really only $568 32, the stock of materials having increased $928 38. The condition of the water stations is good and growiug better, as they have from time improved fixtures applied to them in the course of repairs.

Pumping Water.—This has cost $3,007-09 in the year just closed, being $845 41 more than in the year before.

Maintenance of Road, Washington Branch.

1. The *Road Bed* is in a good and improving condition.

2. The *Railway Track* is also in good order. The light rail upon this road (40lbs. per yard.) and the absence of a suitable bed of stone or gravel under the timber have always rendered it inferior to the newer track upon the main stem. The iron has, however, worn very well, being of good quality, and not subjected to very severe usage. The cost of repairs of road has been $25,909 61, which, being reduced $254 52 for increase of stock of materials on hand, becomes $25,-655 09, and is $7,254 73 more than the repairs for 1847.

3. *Bridges.*—In a note (page 40) of the last annual report, the destructive flood of October 7th, 1847, was briefly noticed. It carried away the two stone bridges of 50 feet span each, at the Savage Factory railroad, over the Little Patuxent, and at Bladensburg over the north-west branch of the Potomac. Also the large arched culvert near the Laurel Factory, over Snowden's branch—a smaller arched culvert opposite Vansville upon a branch of Piney Run, and two box culverts, at Contee's and Calvert's branches. The waters rose to an unprecedented height and caused extensive damage upon other works,

although the main stem of this road received very little damage from it. The extensive breaches in the line were crossed in about a week by substantial trestle bridges which are still standing, it having been deemed expedient by the board to postpone the permanent reconstruction of those viaducts for the present. Of the smaller structures, the Laurel Factory culvert has been rebuilt, with much enlarged water way, and the remaining smaller ones will be replaced within the current year. This disaster has added considerably to the cost of repairing bridges upon this road during the past year. The expense has been $7,025 93, being $5,117 45 greater than in the year 1847.

4. *Depots.*—The repairs under this head have been $306 12, being $645 34 less than in the prior year.

5. *Water Stations.*—Repairs for the year, $225 66, being 197 73 less than in 1847.—The pipe of the two stations at the Savage road and Bladenburg, which have been discussed for many years, has been taken up and a portion of it laid upon the main stem at Martinsburg.

Summary cost of Maintenance of Road.

Main Stem.—The charge upon the company's books against the repairs of road bed and railway tracks, bridges, depots, water stations, pumping water and watching bridges during the year ending September 30th, 1848, is $257,824 26

To which add the decrease in the value of stock on hand for repairs accruing during the year and amounting to . 559 94

And the true cost of maintain- the road and apurtenances will be 258,384 19

Which is 43,338 55 more than the previous year.

Washington Branch.

Total charge upon the books 34,081 32

Deduct increased value of stock on hand . . . 254 52

Actual expense of maintenance 33,826 80

Which is 12,465 59 more than that of the preceding year.

Improvements of Road, Main Stem, Road Bed.—The improvements authorised in the location of the road at certain points east of the Monocacy river, have been in progress during the past year, and are far advanced, although several circumstances not necessary to be here detailed, have unavoidably delayed their completion, which may not take place till some time in the course of the current year, perhaps near its close. All the minor changes in the road bed have, however, been some months finished, and others are from time to time completed and brought into use. The entire expenditure under this head has been to this date, $129,597 34, leaving 70,448 66 still to be expended according to the original estimates,(not including right of way.) The work therefore is but two-thirds done. When completed, the extreme curvature upon the line will have been enlarged from 400 to 600 feet radius, except at two points, the Washington branch junction, immediately west of the Relay house, and the crossing of the Patapsco at the Ilchester Mills. The proposed improvements at these points have been postponed, but will require ultimately to be made, and the one at the Relay house should be effected with as little delay as possible.

The capacity, and safety of the road and machinery will be considerably increased when this system of improvements is entirely completed.

Tracks — Reconstruction. — As already stated under the head of "maintenance of road," there have now been laid, in 1846–7 and '8, 58 miles of new track east of Harper's Ferry, and but 3 miles remain to complete a continuous line of heavy rail from Baltimore to Cumberland. The new track carries the eastward or heavier tonnage upon the 26 miles on which there are two tracks, one of them the original plate rail. The total expenditure to this date is 625.616 16.—The total estimated cost of reconstructing the entire plate rail track, 92 miles in length,—was 971,520, of which there has, therefore, been expended nearly two-thirds.

The two miles of stone sill track in the city of Baltimore has been replaced by a substantial wooden track with a plate rail of increased thickness. The change is in every way beneficial, although the improvement is but partial, and must ultimately be completed by a heavy rail.

New Sidings.—The length of sidings for passing the trains and at depots, has been considerably increased during the past year, principally by allowing portions of the plate rail track to remain on the reconstructed parts of the road. These sidings constitute in fact a second track, although, being in detached sections, not exceeding about a mile in length they are not so called, in stating the length of track upon the road. This, as above set down, is 208 miles, whereas in fact when the sidings and depot tracks are brought into the account there is found to be no less than 229⅜ miles of single track upon the road.—So that in giving the average cost of repairs per mile me might use a much larger divisor with a great reduction of the average. It has been generally, however, considered preferable to treat the sidings and station tracks as appendages to the main track, and to charge the cost of their maintenance as an incident to the latter, and this custom has been adhered to on this occasion.

Station Houses.—During the year there have been considerable improvements under this head. The house, platforms, etc., at the Monocacy and junction of the Frederick branch have been enlarged and refitted in a manner required by the convenience of the public. A building much needed for the accommodation of passengers has been placed at Sir John's run. The passenger shed and ticket office at Cumberland has been rebuilt and enlarged, and a new and substantial brick freight house has been erected there.—The dilapidated shed upon the Charles street lot in Baltimore has been renewed in an improved manner, and a small building for storing freight, with a stable, etc., has been erected along side of it. A ticket office has been built at the Relay house, and the one at Martinsburg improved. Several additional platforms have been placed at sundry stopping places. By these improvements the comfort of the public travelling upon the road has been greatly promoted, with good effects upon the interests of the work.

Scales.—As already stated, the road has been thoroughly fitted out with scales, at all the stations, of each class. They are of the best construction. At Mount Clare the new scales are placed within a new weigh-house, with the offices over head, an arrangement, novel, and remarkably convenient and compact, and forming one of the best and most needed improvements upon the road.

Water Houses.—One new water house has been erected duriug the year, near the 48th mile post. It is supplied by a copious spring conducted to it in pipes, and is a valuable addition to the appurtenances of the road. Some improvements have been made in the machinery of other of the water stations.

Workshops.—The shops at Mount Clare depot, in which work has been done for the road department, consisted of several small and half-ruinous wooden buildings, which have been removed, and replaced by a commodious brick building. The smithy attached to the foundry, has also been enlarged.

In general it may be stated under the head of improvements to the road, that it is in a very superior condition to that in which the end of the preceding year found it, and that nothing has been added to it which was not indispensible.

Maintenance of the Machinery.

1. *Locomotives and Tenders.*—At this date the company owns 57 locomotives, viz:—18 of the first class, 4 of the second, 15 of the third, and 20 of the fourth class—the total equivalent to 104 of the fourth class. The names, class and other particulars of these engines are exhibited in the annexed table—marked E. Out of the whole number, 52 are employed on the main stem and 5 on the Washington branch. Upon the main stem 6 engines, 3 of the third and 3 of the fourth class, run regularly with passenger trains—the remaining 46 with freight trains; although the third and fourth class engines among them are occasionally put upon the passenger trains. Upon the Washington branch 2 engines of the third class run regularly with passenger trains, and 3 of the 4th class with freight and passengers. From the table above referred to, the following particulars of the working of the engines are derived and presented in a condensed form:

Performance in Miles Run. Main Stem.

	miles.
18 1st class engines, with freight trains....	249,621
4 2d class engines with freight trains.....	40,119
13 3d class engines with freight trains.....	159,319
The same engines with passenger trains	133,808
17 4th class engines with freight trains.....	249,846
The same engines with passenger trains	81,980
52 engines of all classes with passengers..	215,788
do with freight.....	698,905
Making a total with passengers & freight	914,693

Washington Branch.

2 3d class engines with passengers.....	54,220

3 4th class engines with passengers.....	34,350
The same engines with freight trains..	36,216
5 engines of both classes, with passengers	88,570
do with freight.....	36,216
Making a total with passenger & freight.	124,786
57 engines of all classes, upon both roads with passengers.....	304,358
with freight.....	735,121
Making a total with passengers & freight	1,039,479
The average of the 18 first class engines, with freight alone, has been each.....	13,868
The average of the 4 second class engines, with freight alone, has been each.....	10,030 23,156
The average of the 20 fourth class engines with freight and passengers has been each.....	20,120

Five engines of the first, two of the second class and one of the third, have been less than a year upon the road, having been placed upon it at various times since October 1st, 1847. Hence the average performance of those classes has been less in proportion to that of the fourth class, the number of which has not been increased during the year, but on the contrary diminished by the transfer of two of its number to the third class, in reconstructing them so as to add to their weight and power.

So many circumstnnces influence the amount of work done by each class that it would be unsafe to infer from the comparison of miles run by each that one class was more efficient than another. In their several departments of duty they are all useful — although it is, in general, true that freight is most economically transported by engines of the first class, and passengers by those of the third class, upon a road of this character.—Another general deduction from the relative duty in miles run, is that the passenger engines with their lighter loads, and higher speed and more regular routine of duty, lose less time unemployed and under repair, than freight engines.

Performance in tons hauled one mile.

Of the 57 engines upon the road, (main stem and branch) 49 are engaged regularly in the transportation of freight (46 main stem and 3 Washington branch) and 8 (6 main stem and 2 Washington branch), in that of passengers. The average number of tons excluding the weight of the cars, hauled one mile by the 49 freight engines of all classes will have been 631,130 for each, and expressing the number of those engines by that of their equivalent in the 4th or lightest class, we should have 93¼ engines of this class, 90½ on the main stem and 3 on the Washington branch, and each of them would have drawn an average on both roads of 341,622 tons 1 mile. This tonnage includes materials and fuel distributed along the line for the company's use. Excluding that and considering only the freight which has earned revenue, the performance will have been 301,898 tons hauled 1 mile by the power of one 4th class engine. This power is equivalent to an average traction or adhesion, of about one ton; so that the relation between the effective weight of the engine and its years duty is thus readily seen. If all the engines now on the road had done a full years duty the number of tons hauled 1 mile, of freight earning revenue, would have increased 13 per ct. or to 341,472 tons.

Comparing these statements with those of the preceding year we find that the average duty of the engines has decreased 10 7-10 per cent. This is chiefly the result of the introduction upon the road of the additional power, by which the engines have been relieved of a portion of their duty,—a result which will be productive of real economy in their working.

Cost of Repairs of Locomotives

Main Stem.—The sum exhibiting the cost of the materials and labor put into the engines and tenders, in maintaining their current repairs, and rebuilding them with improvements when that was necessary or advisable, is $57,901 76; to which we add the cost of providing duplicate parts, for the engines, for future use, and kept in store for that purpose 1,242 37—which two amounts make an aggregate of 59,144 13. The actual current outlay during the year in maintaining the engines, is the first of the above amounts only. It is less than the corresponding amount for the previous year by 13,118 47. The average number of engines at work in 1847 was equivalent to 74 of the 4th class—and in 1848 to 84 of the same class. The increase in the number of engines has been consequently 13½ per cent.—The duty in tons and passengers carried one mile is also greater by 8 per cent. The decrease in the cost of repairs is, on the other hand, 18 per cent. The value to the improvements to the engines made during the past pear was about 9,300, including the cost of converting two of the 4th class 6 wheel engines into 8 wheel engines of the 3d class. The cost of these improvements is embraced in that of repairs, already stated. This remarkable reduction in the expense of maintenance is due chiefly to the improved condition of the old engines, and the introduction of so considerable proportion of new ones,—to the amended state of the road and other causes, which will promote a permanent economy in the department of machinery.

The cost of repairs per mile run, and per ton per mile drawn, has been nearly as follows for the several classes:

	Per mile run.	Per mile drawn.
1st class	9·93 cents	·147 of a cent per ton.
2d class	8·02 cents.	·178 of a cent per ton.
3d class	5·50 cents.	·265 of a cent per ton.
4th class	4·16 cents.	·233 of a cent per ton.
Gen. av.,	6·33 cents.	·188 of a cent per ton.

In this exhibit there is a uniform *decrease* in the cost per mile, from the 1st or heaviest to the 4th or slightest class,—while there is a nearly similar uniformity in the *increase* of cost per ton per mile—showing clearly the superior economy in this item, of the heavy engine for freight purposes.

Washington Branch.

The cost of current repairs of locomotives on this road for the year is 3,076 88 dollars; to which add for duplicate parts provided, as before. The first of these amounts, representing the actual cost of maintainance during the year, is 7,801 96 less than that of the previous year, being indeed less than one third of the latter. This great reduction is due to the greatly improved condition of the engines, and to the large increase of duty performed by them—being 25 per cent. in miles run, and 22½ in tons drawn.

The result per mile run, and per ton per mile drawn, is as follows:

	Per mile run.	Per mile drawn.
3d class	2·90 cents.	·955 of a cent per ton.
4th class	2·14 cents.	·105 of a cent per ton.
Gen. av.,	2·47 cents.	·192 of a cent per ton.

The third class engines upon this road have run entirely with passengers, which are here expressed by their equivalent at 12 to the ton. The cost per ton is shown for the sake of conformity, and to show how much more costly, by weight, the conveyance of passengers is than than that of tonnage.

The cost per mile, and per ton per mile of the 4th class engines is very small, as they have been run chiefly with freight,—and they have been in consequence of the work done upon them last year, in remarkably good condition.

Average upon Both Roads.—This for all classes for the year has been 5·87 cents per mile run, and ·189 of a cent per ton per mile drawn. The corresponding result for the previous year was 10·14 cents per mile and ·3097 of a cent per ton per mile. The increase of miles run in the year just ended was 14½ per cent., and the cost per mile but little more than one half of that of the previous year, while the cost of the real duty performed was not more than two thirds of that of the same year. The comparison is evidence of improved economy in the working of the engines, and is due in part to the improved condition of the engines already on the road, and of the road itself, and in no small degree to the relief afforded to the working of the machines by the enlargement of the stock which has taken place during the year. This extension has operated well in several ways. When the engines have needed minor repairs they have been taken at once to the shop instead of being run until they would run no longer. The necessity of working upon them by night has been obviated, and this most imperfect and costly kind of work avoided. The engine man has also had more time to clean and keep his engine in order. The general condition of the machines being much improved, their power has been increased. Fewer irregularities in the running of the trains have taken place, and where spare engines were wanted to replace disabled ones, they were at hand. It requires indeed no argument to show that, in numerous particulars, economy in the operations of the road must have been promoted. During the year ending October 19, 1847, there was 90 per cent. of the motive power constantly on the road. In the year just closed the proportion was reduced to 82½ per cent. Upon the Reading railroad 80 per ct. of the power is usually on the road. On the Boston and Worcester railroad 75 per ct. has been kept in motion by dint of great exertions; on the Boston and Lowell railroad about the same; on the Georgia railroad from 62 to 75 per ct. I am of the opinion, indeed, that there should

be a spare engine to every two in constant use, or that only 67 per cent. of the whole power should be kept in motion. This ratio has been the basis of all the calculations of the cost of motive power which have emanated from this department. It is the proportion observed in the running of our passenger engines which wear so well, and which, after running two consecutive days, lie by upon the thtrd for repairs. Want of capital may make it necessary to be content with a smaller investment in machinery than the adherance to this proportion would require. If so it is a necessity, a submission to which may be unavoidable, but which will be felt in the increased expense of working the road.

2. *Burden Cars.*—The appended tabular statement, letter F, exhibits the stock of burden cars now owned by the company. It will be seen to number 1,201 freight cars of all kinds, and which are in very good general condition. They are for use both upon the Main stem and Washington branch as required, their repairs being estimated separately for each road. The cost of maintaining this stock during the past year has been as follows:

Main Stem.	
Cars for general freight, .	$49,834 17
Cars for coal freight, . .	19,368 95
	69,203 42
Washington Branch.	
Cars for general freight, .	5,892 60
Total for both roads, . .	75,096 02

Comparing with the corresponding amounts expended in 1847, the increase is $20,314 45 for the Main stem, and the decrease, 3,687 52 for the Washington branch, a total increase of 16,626 93. The increase on the main stem is accounted for by the increase in the number and duty of the cars on that road, and of the improvements in the coal and other cars presently referred to. It will be seen by reference to table F, that there have been 80 burden cars entirely rebuilt this year.

The cost of repairs per ton per mile of burden cars for all kinds of tonnage including coal, and also distribution of materials and fuel for the company, has been upon the main stem ·233 of a cent in 1848 compared with ·180 of a cent in 1847, the difference against 1848 being due in a measure to the increase of duty performed, but chiefly to the expense involved in the addition made to the value of the stock of cars.

Upon the Washington branch the cost has been ·451 of a cent per ton of general freight per mile, and the general average upon both roads ·243 of a cent for all tonnage, including the company's materials and fuel and ·263 of a cent excluding them.

Coal cars have cost but ·158 of a cent per ton of coal carried per mile, although these cars have been much improved during the year by buffers, etc., at a cost which accounts for full one third of the entire expense due on this account, and which, if allowed for, will reduce the cost per ton per mile to ·105 of a cent.

3. *Passenger Cars.*—The establishment of these cars is shown in the table annexed and lettered G. They number in all 65 cars of all classes, of which 46 belong to the main steam and 19 to the Washington branch.

The cost of maintenance during the year has been thus:

Main stem, . . .	$24,038 13
Washington branch, . .	7,286 99
Total for both ends, . .	31,325 12

The decrease upon 1847 is $2,629 77 for the main stem, and 4,920 50 for the Washington branch. The difference is due to the smaller number of cars rebuilt this year, and allowances being made for it, the cost in 1848 will be ·191 of a cent, compared with ·210 of a cent in 1847—the average being for both roads.

4. *Stationary Machinery, Engine & Car Houses and Workshops belonging to the Machinery Department.*—The general condition of these buildings is good, if we except the engine houses near Harper's Ferry, which, being built with wood and much cramped in their size and position, have always been a source of trouble and expense, from which, happily, there is a prospect of being, in a measure relieved by the transfer of the central engine station to Martinsburg.

The cost of maintaining these buildings in repair should be divided between the engines and cars; but, as the amount is very small this year, being but $219 64, it is not so divided, but is transferred to the road department, under head of "depots."

Summary of Cost of Maintenance of Machinery.—The whole expense of maintaining the locomotives, passenger and burden cars during the year ending September 30, 1848, has been upon the Main stem, under the several heads as above stated, $151,143 31
which is 4,566 21 greater than the preceding year.

Washington branch, . .	16,256 47
which is 16,683 12 less than the preceding year.	
Total for both roads,	167,399 88
To which, in order to show agreement with the Treasurer's account, must be added the am't charged to "machine shop" and "foundry," disbursed within the year, but not worked up and put into the machinery, but now on hand as "material" for future use (but not apportioned among engines and cars)	16,605 06
Total as stated in treasurer's account, ...	184,004 84

Improvement of the Machinery.

1. *Locomotives.*—The stock of engines has been increased during the year by the addition of 3 of the first class built by contract, 1 purchased, and 1 constructed in the company's shop at Mount Clare; 2 of the second class purchased, and 1 of the third class also purchased. Five also of the first class have been contracted for; none of these are yet delivered, but are to be furnished during the coming winter. All of these engines, excepting the last five not yet delivered, appear in the table E of the appendix, with the maker's name and other particulars.

Their total cost was . .	65,550 00
And the cost of the 5 to be yet delivered will be. . .	46,750 00
Making an aggregate of .	112,300 00

These engines are all at work successfully upon the road. Of the 5 first class, the three built by contract, and the one in the company's shop, were constructed under a carefully framed specification having for its object the production of a machine of a weight less than the heaviest then upon the road, and yet possessing the properties wanted to adapt it best to the peculiar charisteristics and requirements of the road. Thus far the machines work well and promise well for the future, although further experience is necessary to test their economy compared with that of the heavier engines which preceded them. Besides these new machines, several of those already on the road have been much improved; 2 six wheel engines have been converted into eight wheeled with 25 per cent. increase of their power, and their action on the road made much less injurious.

2. *Burden Cars.*—The addition to the stock of these cars during the last year has been, 50 house cars—26 stock, partitioned—30 gondolas for carrying hogs and sheep—37 ordinary gondolas—12 platform cars, for carrying iron, and 10 for transporting stone, and 6 lumber cars. All of these 171 cars are eight-wheeled, and have cost 74,998

Besides these new cars furnished from abroad, there have been 60 worn out cars rebuilt in the company's shop with improvement of model, and provided with spring buffers. The 201 iron coal cars of the company have also had buffers attached to them and strengthened in other ways, so as to make them much more durable and valuable than at the beginning of the year.

3, *Passenger Cars.*—2 baggage, 2 mail cars, and 12 excursion cars have been built by contract at a cost of . . 20,600
There have been also contracted for and to be delivered during the ensuing winter, 12 passenger cars, cost 21,450
Making the entire outlay on this acct. 42,050

4. *Stationary Machinery, Engine House, Workshops &c.*—A new engine house to hold 11 engines with their tenders or 22 engines alone, with a suitable workshop attached, is being built at Martinsburg and will be ready for occupation by winter. It is substantially built of stone and brick, with an iron sheathed roof. This improvement will be a highly valuable one, permitting the long contemplated change from the confined and unhealthy station one mile below Harper's Ferry to a position in every way more desirable. A small stationary engine has been provided for this station or that of Cumberland, as it may appear to be soonest required at one or the other. The new engine house at Mt. Clare, which has been in use now for the last year, has given great accommodation, but such has been the increase of the business and motive power of the company that additional shelter for engines will be required, and so also for passenger cars.

To be Continued.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

JAMES HERRON, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.

MODELS of this Track, on the most improved plans, may be seen at the Engineer's Office of the New York and Erie Railroad.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory.*
REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS, }
1y48

TO CONTRACTORS.

OFFICE NASHVILLE & CHATTANOOGA R.R. Co. }
Nashville, 9th November, 1848. }

PROPOSALS WILL BE RECEIVED AT this office on 20th December next, for the Graduation and Masonry of forty miles of road, viz: twenty miles next to Nashville, ten miles crossing the Barran fork of Duck river in Bedford county, Tennessee, and ten miles on the northwest side of Tennessee river, in Jackson county, Alabama.

Profiles and plans may be seen at this office after 12th December. By order of the board.
C. F. M. GARNETT,
Chief Engineer.

N. B. Twenty-five miles of road (including the Tunnel,) and six miles heavy mountain work are under contract. Seven Hundred Laborers are wanted by the Contractors. 5t*48

☞ NOTICE. ☜
RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves	Albany	7½ A.M.	2 P.M.	7 P.M.
Pass	Utica	1 P.M.	7½ P.M.	1½ A.M.
Pass	Syracuse	4½ P.M.	11 P.M.	5 A.M.
Pass	Auburn	6½ P.M.	1 A.M.	7 A.M.
Pass	Rochester.	12½ M.N.	7 A.M.	1 P.M.
Arrives at	Buffalo	5½ A.M.	12 M.	6 P.M.
Going east.		**1st train.**	**2d train.**	**3d train.**
Leaves	Buffalo	7½ A.M.	2 P.M.	7 P.M.
Pass	Rochester.	12½ M.	7 P.M.	12 M.N.
Pass	Auburn	6½ P.M.	1 A.M.	6 A.M.
Pass	Syracuse.	8½ P.M.	3½ A.M.	8 A.M.
Pass	Utica	12 M.N.	7 A.M.	11½ A.M.
Arrives at	Albany	5 A.M.	12 M.	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of
RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS,
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

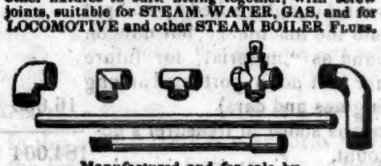
Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.
WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.
☞ Orders for the above will be received and promptly attended to at this office. 32 1y

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address
JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by
IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

JAMES LAURIE, *Civil Engineer.*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.
October 14, 1848. 6m*

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.
ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.
Dec. 25, 1847.—1y.

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,

of Messrs. Mauldslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,

THOMAS PROSSER, C. E.,
28 Platt street, New York.

May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*

ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON—SHEET IRON—BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 3w*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders, Wheels, Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, Slabbing, Planing, Cutting, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at
39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain: and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
	New York and Erie Railroad;

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*
Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money. A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.
Kensington, Philadelphia Co.,
March 12, 1848. 11tf

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class:	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 40	0 65
	Cotton, per 100 lbs.	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel	2 50	4 25
	Salt per bushel	0 18	
	Salt per Liverpool sack.	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., July 15, 1847. 44-1y

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil) ..... $1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery ..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons ..... $5 00 per hhd.
On molasses and oil ..... $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission.

THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, $3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

MORNING LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.

A Second Class Car will be run with the morning line. Fare, $2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

AFTERNOON LINE.

Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.—

☞ Supper provided on board the boat. ☜

NIGHT LINE.

Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

WHEELING AND PITTSBURG.

Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, $13. Fare to Pittsburg, $12.

The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

SUNDAY MAIL LINE.

The only line for Baltimore on Sunday leaves the depot, 11th and Market streets, at 10 P.M.

Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

NOTICE.—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel: 50 lbs. baggage allowed each passenger.

WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermndiate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 1½ and 4 P. M.

Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.

The Mail Trains stopping at Chester and Wilminton, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight.

Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDELL, *Agent.*

March 23, 1848. 1y15

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the

Trains will run as follows:

Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m. and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after

Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

NORWICH AND WORCESTER RAILRoad. Winter Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 2½ p. m.

Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

BOSTON AND MAINE RAILROAD.

Winter Arrangement.

Commencing Nov. 13, 1848.

Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.

Great Falls at 7 a.m., 2½ and 3½ p.m.

Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.

Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.

Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.

Great Falls at 6½ and 9½ a.m., and 4½ p.m.

Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.

Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.

Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.

From Boston at 7½, 9½ a. m., 12½ 2½, 5½, 6½, 10 p.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, *Sup't.*

Boston, Nov. 7, 1848.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m.
Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conncting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

NEW YORK & PHILADELPHIA. NEW JERSEY RAILROAD & TRANSPORTATION CO.—

6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11½ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 1st, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 9½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon			$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sandusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, Sup't.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.—These Springs have been in use for nearly four years, with most complete success, and they are now in use upon most of the principal roads in this country. They are made of the best material, are economical, light, and very easy in their motion—all persons using them are guaranteed against adverse claims.

Offices 78 Broad street New York, and Jas. Lee & Co., 18 India wharf, Boston.

Railroad companies are cautioned against the statements made by the New England car company. The India rubber used by the patentee is the best that can be made, and does not conflict with any existing patent. The rediculous statement that a patentee may not vend his own invention needs no remark.

The patent for these springs was granted to W. C. Fuller, in Oct., 1845, in the United States and in England; A Mr. Ray claims to have invented another spring, which counsel advise, is a mere evasion of Mr. Fuller's patent, and proceedings are being taken to stop that infringement.

"The New England Car Company" have published an article from the pen of Mr. Hale, president of the Boston and Worcester railroad, expressing his opinion concerning these springs—but they have forgoten to publish the whole of that article; it is therefore given in full now, and the portion omitted by the New England car company is printed in italics, that the public may judge of the manner in which this "company" pervert Mr Hale's meaning.

G. M. KNEVITT, Agent,
78 Broad St., New York.

September 30, 1848.

[*From the Boston Advertiser of the 7th June.*]

INDIA RUBBER SPRINGS FOR RAILROAD CARS.

"Of the numerous uses to which the wonderful elasticity and durability of India rubber, renders this material applicable, we are hardly aware of one, in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests, but for the springs attached to the draw bar, at each end of the car, to prevent any jar on the sudden commencement, or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is also simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months in which we have seen the springs in operation, there is no apparent wear or diminution of its efficiency. *Each spring is composed of several circular layers or rings of India rubber, a thin metallic plate of the same size being interposed between each of the layers. From the simplicity of its form, it cannot be expensive, and it admits of being made more or less elastic almost at pleasure. The invention, we understand, was first patented in England, where it has been introduced into general use on several of the principal railroads, and we have no doubt it will come into very extensive use in this country. The patent for this invention, we understand, has been granted to Mr. W. C. Fuller, in England and France, and also in this country. Mr. Knevitt, of New York, is the agent for the patentee in the United States, and he has established a branch office for the supply of the article in this city, as may be learned from an advertisement in another column of this paper.*"

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—1000 Tons best quality Rails.

RIDER'S PATENT IRON BRIDGE.

THE RIDER IRON BRIDGE having now been fully tested on the Harlem Railroad, by constant use for about eighteen months, and found to answer the full expectations of its most sanguine friends, is now offered to the public with the utmost confidence as to its great utility over any other Bridge now known.

The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time is so arranged as to secure the combined principles of the *Arch*, *Suspension* and *Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE RIDER IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Rail Road or other purposes, made under the above Patent, at short notice, and at prices far *more economical* than the best wood structure, and on *certain conditions*, the first cost may be made the same as wood.

Models, and pamphlets giving full descriptions of the RIDER BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, 74 BROADWAY, *up stairs*, or of W. RIDER & BROTHERS, 58 *Liberty Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
November 25, 1848. Agent for the Company.

LAP—WELDED WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

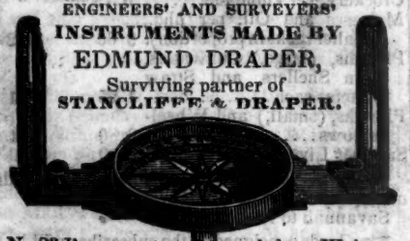
These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY EDMUND DRAPER,

Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

RAILROAD SCALES.---THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

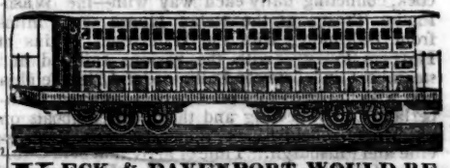
The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
1y25 Office, No. 3 North 5th street, Philadelphia, Pa.

CAR MANUFACTORY,

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESpectfully call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, October 2, 1848. 41tf

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.

J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.